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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/348,165	07/07/1999	AKIRA NAKAGAWA	826.1553/JDH	4844

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EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/348,165

Applicant(s)

NAKAGAWA ET-AL.

Examiner

Allen Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 12-22, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/23/06 have been fully read and considered but they are not persuasive.

Regarding lines 7-10 and 22-24 on page 8 of applicant's remarks, applicant states that Yagasaki does not disclose decoding means for decoding the motion vector of the target block by using a result of the prediction made by said predicting means with a decoding method determined based on a result of the determination made by said determining means. The examiner respectfully disagrees. In column 18, lines 1-13 and column 19, lines 11-63, Yagasaki discloses table 5 that shows a plurality of VLC codes in that each VLC code has two values of motion vectors assigned to each VLC code, so clearly, there are non-uniform motion vector values. Then, in column 19, lines 43-63 and column 19, line 63 to column 20, line 6, Yagasaki discloses that since there are plural VLC codes to code the motion vector data, it is clearly elucidated that Yagasaki discloses the decoding means and process to decode these VLC codes. Thus, Yagasaki discloses the decoding means for decoding the motion vector of the target block by using a result of the prediction made by said predicting means with a decoding method determined based on a result of the determination made by said determining means.

Thus, the broad limitations of claims 11-16 and 20-22 are met by Yagasaki.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11-16 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yagasaki (5,428,396).

Regarding claim 11, Yagasaki discloses a motion vector decoding device for decoding an encoding result which is obtained by encoding motion vectors of respective blocks obtained by partitioning each frame of moving image data, comprising:

predicting means for predicting a motion vector of a target block based on motion vectors of a plurality of blocks adjacent to the target block (see figs.1A and 1B, note the motion vector is predicted based on the target block or objective block surrounded by the plurality of adjacent blocks to the targeted or objective block within the same frame; also, see col.18, ln.1-13, the prediction is based on the strong spatial correlation of the motion vector values for adjacent blocks within a frame);

determining means for determining accuracy of a prediction made by said predicting means based on degrees of non-uniformity of the plurality of motion vectors (col.18, ln.1-13 and col.19, ln.11-63; note the table 5 discloses a plurality of VLC codes in that each VLC code has two values of motion vectors assigned to each VLC code, so clearly, there are non-uniform motion vector values); and

decoding means for decoding the motion vector of the target block by using a result of the prediction made by said predicting means with a decoding method determined based on a result of the determination made by said determining means (col.19, ln.43-63 and col.19, ln.63 to col.20, ln.6; since there are VLC codes to code the motion vector data, clearly, Yagasaki discloses the decoding means and process to decode these VLC codes).

Note claims 12-13 and claims 20-22 have similar corresponding elements. Also, note dependent claims 14-16 are rejected for the same reasons as set forth above for independent claims 11-13.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-19 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagasaki (5,428,396) in view of Fandrianto (5,594,813).

Yagasaki does not specifically disclose the plurality of individual decoding means for decoding the motion vector of the target block with unique decoding methods and selecting means for selecting one of the plurality of individual decoding means and for outputting a result of decoding performed by the selected individual decoding means. However, Fandrianto teaches the use of obtaining, coding the motion vector of the target block with unique coding methods (col.3, ln.55-62, col.5, ln.26-32, note the

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disclosure of applying full-pixel search, half-pixel search, quarter pixel search, and note col.10, ln.59 to col.11, ln.31, Fandrianto discloses the use of multiple search techniques and methods can be applied such as full-pixel search, jump search, binary pixel search where there can be many searches done) and selecting means for selecting one of the plurality of individual coding means and for outputting a result of coding performed by the selected individual decoding means (col.3, ln.55-62 and col.10, ln.59 to col.11, ln.31). Although Fandrianto only describes the coding methods, it would have been obvious to one of ordinary skill in the art to modify Fandrianto's teachings into Yagasaki's reference to include the decoding methods for performing the determining a motion vector decoding method from a plurality of decoding methods so as to decoding image data in a highly accurate, efficient manner while maintaining high image quality (col.2, ln.3-7).

Regarding claims 24-25, Yagasaki discloses a motion vector decoding device method for decoding a result of encoding by partitioning each frame of moving image data, comprising:

determining a motion vector based on motion vectors of a plurality of blocks adjacent to a target block (see figs.1A and 1B, note the motion vector is predicted based on the target block or objective block surrounded by the plurality of adjacent blocks to the targeted or objective block within the same frame; also, see col.18, ln.1-13, the prediction is based on the strong spatial correlation of the motion vector values for adjacent blocks within a frame); and

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decoding a motion vector of the target block (col.19, ln.43-63 and col.19, ln.63 to col.20, ln.6; since there are VLC codes to code the motion vector data, clearly, Yagasaki discloses the decoding means and process to decode these VLC codes).

Yagasaki does not specifically disclose the plurality of decoding methods. However, Fandrianto teaches the use of obtaining, coding the motion vector of the target block with plural coding methods (col.3, ln.55-62, col.5, ln.26-32, note the disclosure of applying full-pixel search, half-pixel search, quarter pixel search, and note col.10, ln.59 to col.11, ln.31, Fandrianto discloses the use of multiple search techniques and methods can be applied such as full-pixel search, jump search, binary pixel search where there can be many searches done). Although Fandrianto only describes the coding methods, it would have been obvious to one of ordinary skill in the art to modify Fandrianto's teachings into Yagasaki's reference to include the decoding methods for performing the determining a motion vector decoding method from a plurality of decoding methods so as to decoding image data in a highly accurate, efficient manner while maintaining high image quality (col.2, ln.3-7).

Allowable Subject Matter

1. Claim 5 is allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: the applicant has rewritten claim 5 into an independent form such that the current claim 5 incorporates the previous limitations of the claim 1. Since there are no prior art references that teach or suggest the combination of limitations as disclosed in the current claim 5, it is considered patentable.

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3. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not specifically disclose the limitation of wherein the motion vectors comprise first, second and third motion vectors said determining comprises: determining a first absolute value of difference between the first and second motion vectors, determining a second absolute value of difference between the second and third motion vectors, and determining a third absolute value of difference between the first and third motion vectors; comparing the first absolute value to the threshold, comparing the second absolute value to the threshold and comparing the third absolute value to the threshold; and indicating that the prediction is not accurate when any of the first, second and third absolute values are greater than the threshold.

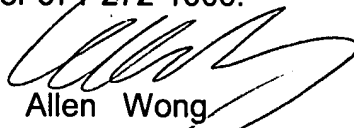
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Allen Wong
Primary Examiner
Art Unit 2621

AW
8/30/06